

# A competitive bioeconomy for a sustainable future

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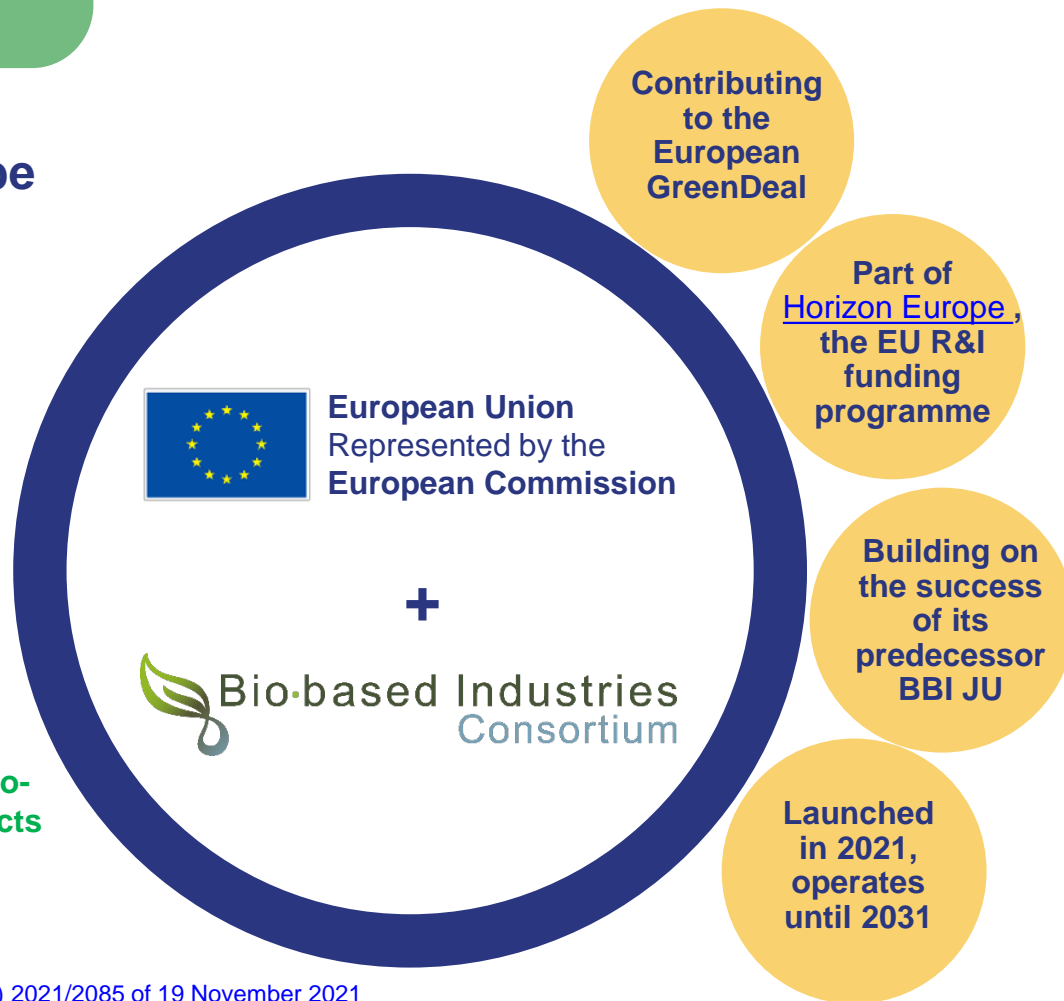


# Circular Bio-Based Europe Joint Understanding

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# Circular Bio-based Europe Joint Undertaking\*

€2 billion public-private initiative



CBE JU is funding projects that deliver **bio-based solutions - materials and products made from waste and biomass** - in an innovative, sustainable and circular way

\*CBE JU is established by the [Council Regulation \(EU\) 2021/2085 of 19 November 2021](#)

## Supporting the European Green Deal



Contributing significantly to the **2030 climate targets**, paving the way for climate neutrality by 2050



Increasing the **sustainability and circularity** of production and consumption systems



Developing and expanding the **sustainable sourcing and conversion of biomass** into bio-based products



...Supporting the **deployment** of bio-based innovation **regional level**, with a view to reviving rural and coastal regions

## CBE JU General and Specific Objectives



Accelerate the **innovation** process and development of bio-based innovative solutions



Increase cross-disciplinary **research and innovation** activities, reaping its benefits for the development and demonstration of **sustainable bio-based solutions**.



Increase and integrate the research and innovation **capacity of stakeholders** across the EU to unlock **bioeconomy potential** even in regions with underdeveloped capacity.



Increase the **research and innovation** capacity and development sustainable bio-based innovations, by ensuring that sustainability issues and environmental performance are integrated throughout the whole **innovation chain**.



Accelerate **market deployment** of the existing mature and innovative bio-based solutions



Reinforce the integration of **bio-based research** and innovation in EU bio-based industries and increase the involvement of R&I actors, including feedstock providers, in the **bio-based value chains**.



**Reduce the risk** for research and innovation investment in bio-based companies and projects.



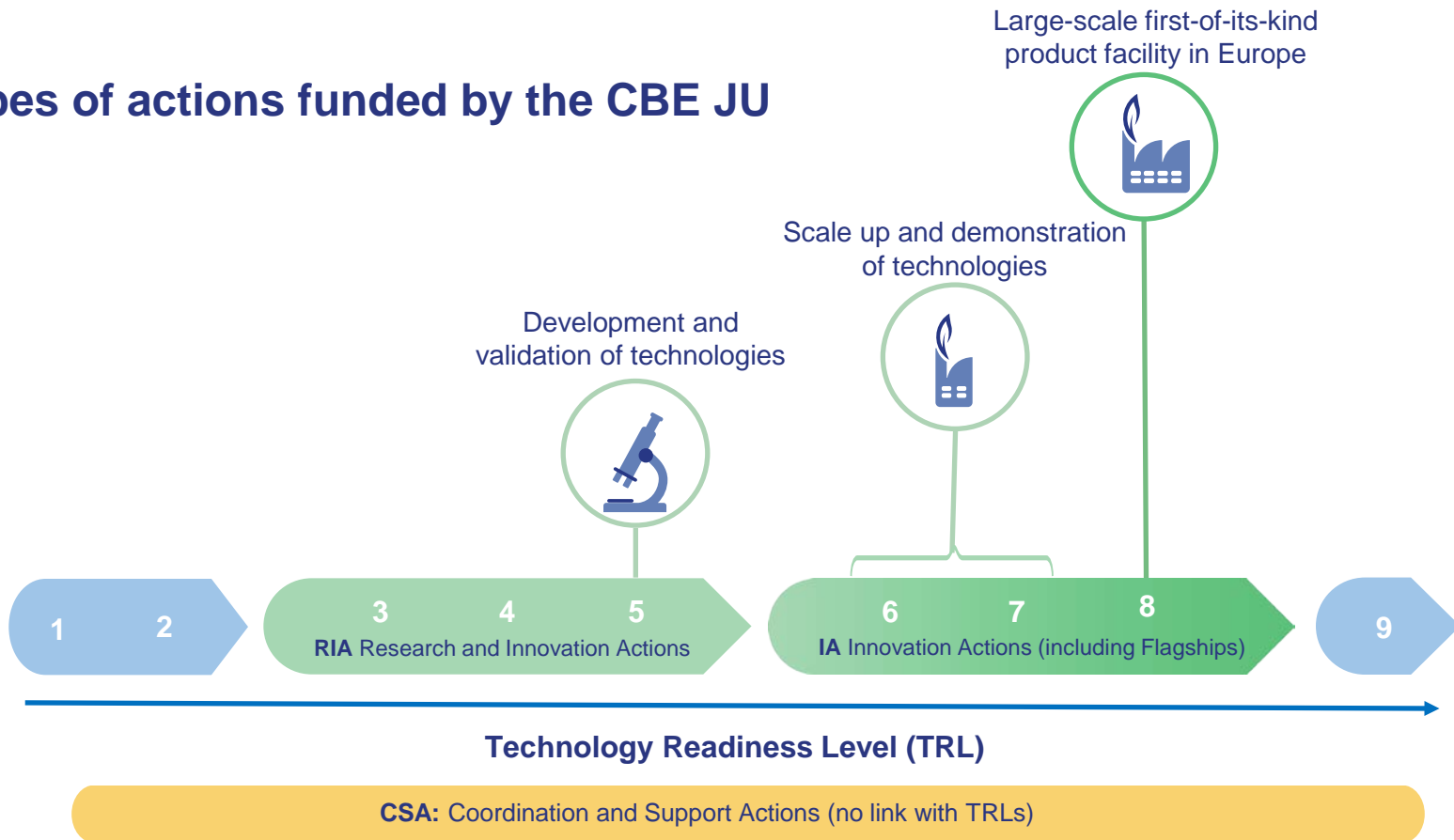
Ensure a high level of **environmental performance** of bio-based industrial systems

Ensure that **circularity** and environmental considerations, including contributions to **climate neutrality** and **zero pollution** objectives, are considered in the development and implementation of R&I bio-based projects and facilitate **societal acceptance**.

## CBE JU governance

- **Governing Board**
  - **Executive Director and Programme Office**
  - **States' representatives group**
  - **Scientific Committee**
  - **Deployment groups**
    - **Open to key deployment stakeholders** (e.g. primary producers and other feedstock providers, regional actors and investors)
    - **Commitment to contribute to improvement of deployment conditions**
- Advisory bodies**

## Types of actions funded by the CBE JU



# CBE JU: Strategic Research and Innovation Agenda

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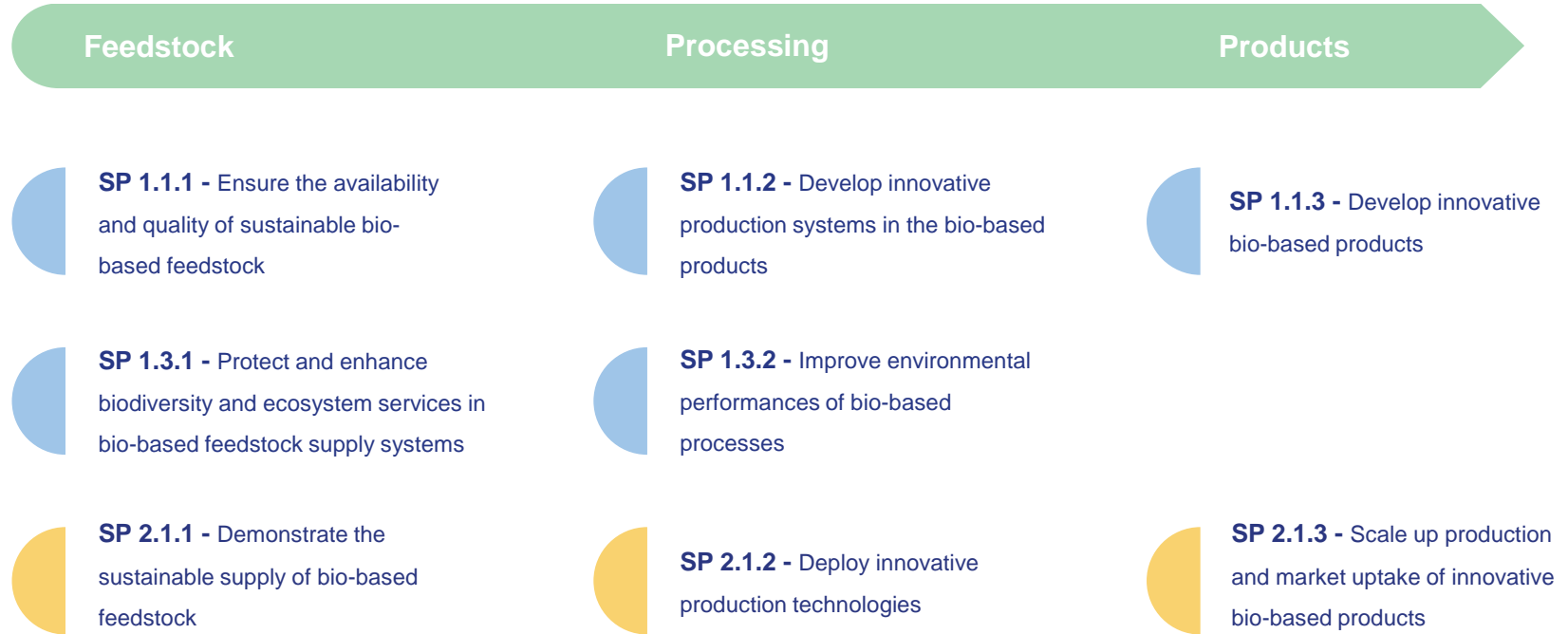
## Addressing challenges of the bioeconomy

- **Boosting competitiveness** – structuring and mobilising bio-based industries, leveraging investment
- **Broadening the feedstock** and **increasing circularity** of production processes
- Contributing to **climate neutrality, zero pollution** and **biodiversity**
- Achieving a balanced **regional distribution** of benefits

## CBE JU scope and guiding principles


- Industrial sectors of the bioeconomy, that **use biological resources and processes** to produce food, feed, bio-based products, energy and services
- **Bio-based products**
  - NOT food and feed (food and feed ingredients and agricultural nutrients are in the scope), pharmaceuticals or medical devices, biofuels and bioenergy
  - In case of multiple outputs, the judgement based on the dominant product/use
- **Cascading use of biomass**
- **Biomass sourcing** from Europe with constraints of short supply chains
- **Climate and environmental performance**
- Attention to activities that enable the **conversion of waste, residues and side-streams**
- Activities should **contribute to local and regional economies**, while **reducing the dependency** on imports of natural resources

## Strategic priorities by area




## Strategic priorities by area


### Communication




**SP 1.2.1** - Stimulate research activities in locations with underdeveloped R&I capacity for bio-based systems




**SP 1.2.2** - Increase the awareness and capacity of support agencies for industrial bio-based systems



**SP 1.2.3** - Improve higher education and skills development to increase expertise in bio-based fields



**SP 2.1.4** - Build policy makers' awareness and acceptance of bio-based solutions




**SP 3.1.3** - Facilitate social acceptance of bio-based applications

### Finance




**SP 2.2.1** - Improve the risk profile of bio-based projects




**SP 2.2.2** - Develop investment tools & approaches that mitigate the investment risk in bio-based systems

### Environmental sustainability framework



**SP 3.1.1** - Set effective & robust environmental sustainability and circularity criteria for bio-based systems



**SP 3.1.2** - Incorporate the environmental sustainability and circularity criteria for bio-based systems

## From SRIA to Call for proposals



# From call to project



## Call for proposals



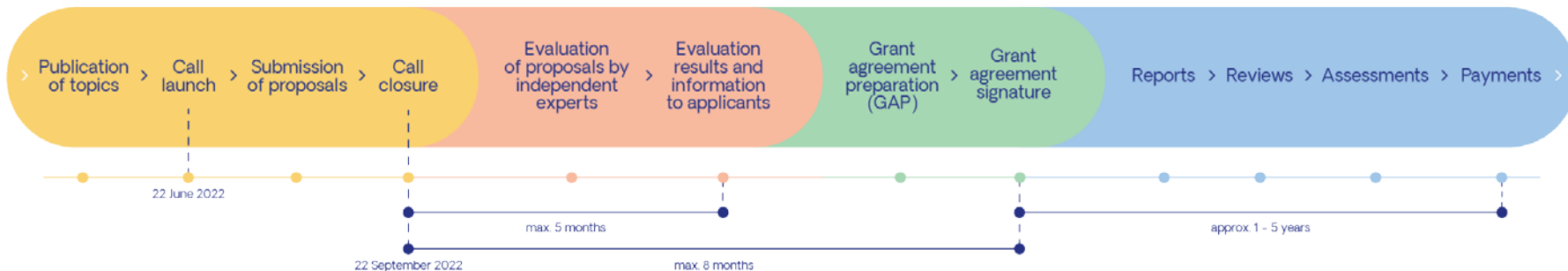
## Evaluation



## Grant agreement



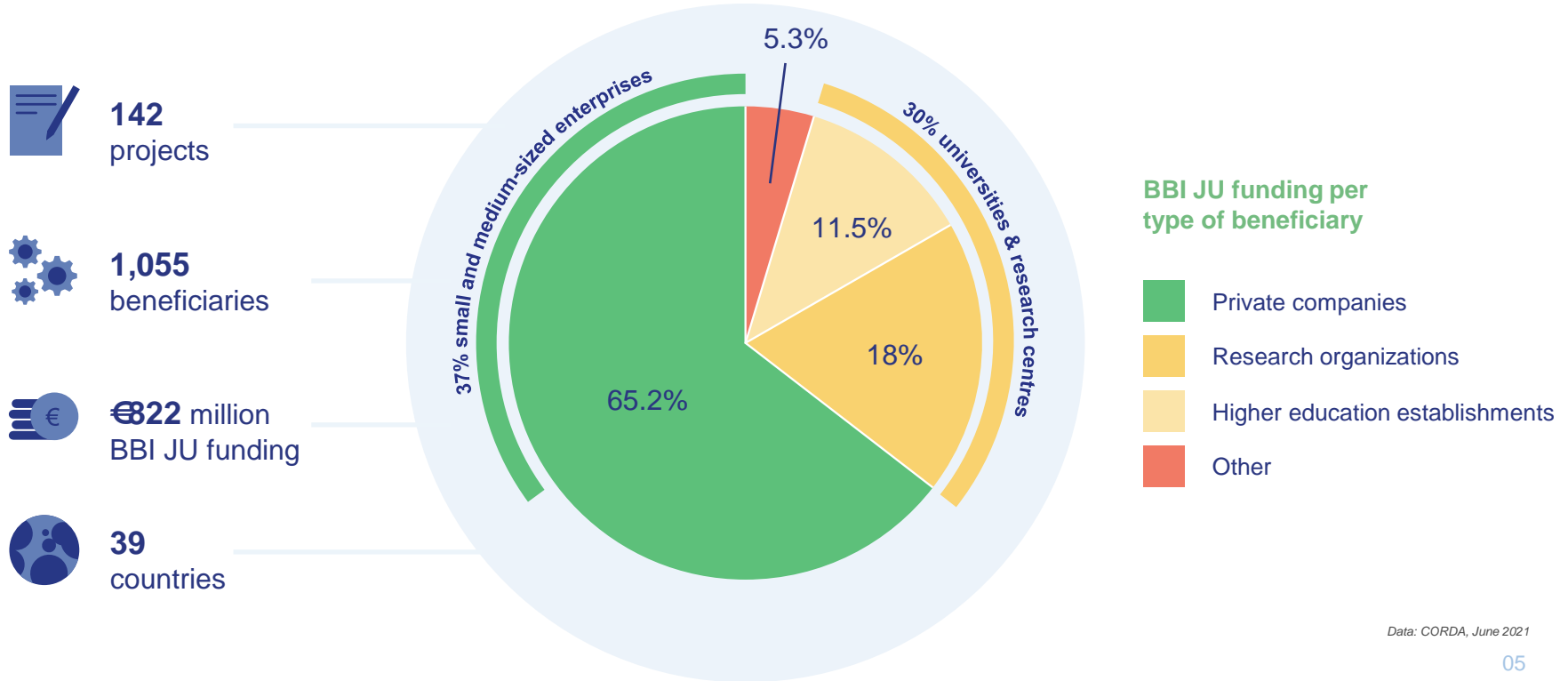
## Project management



# CBE JU portfolio

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## Building on the success of BBI JU, CBE JU's predecessor 2014-2020





# CBE JU flagship projects

## Feedstock & final product



PLENITUDE - Sas van Gent, the Netherlands



EXILVA - Sarpsborg, Norway



SWEETWOODS - Imavere, Estonia



FARMYNG - Amiens, France



LIGNOFLAG - Podari, Romania



 Flagship biorefinery

**1 AgriChemWhey**  
Dairy sidestreams  
↳ Lactid acid, minerals for food and fertilisers

**2 EXILVA**  
Cellulose  
↳ MFC - MicroFibrillated Cellulose

**3 SWEETWOODS**  
Lignin & hardwood residues  
↳ High-quality C5/C6 sugars & dried lignin

**4 VIOBOND**  
Forest-based  
↳ Bio-based resins

**5 PLENITUDE**  
Residues of cereal crops  
↳ Mycoproteins

**6 PEference**  
Crop residues  
↳ FDCA for bioplastics

**7 FARMYNG**  
Mealworms & agri-food sidestreams  
↳ Proteins for animal feed & organic fertiliser

**8 AFTERBIOCHEM**  
Sidestreams from sugar beet  
↳ Flavourings, fragrances, hygiene products, pharmaceuticals, antimicrobials & polymers

**9 ReSolute**  
Sidestreams from pulp & paper industry  
↳ Biodegradable, harmless & bio-based solvent: Cyrene

**10 SCALE**  
Microalgae  
↳ Nutritional ingredients for food, feed and cosmetics

**11 CIRCULAR BIOCARBON**  
Municipal solid waste  
↳ High-value products from fertilisers to 5G technology

**12 FIRST2RUN**  
Underutilised oil crops  
↳ Building blocks for polyester production & vegetable oils

**13 LIGNOFLAG**  
Crop residues  
↳ 2G bioethanol biofuel - building block

# 13 Flagship projects:

Expected socio-economic impacts



Flagship  
biorefinery



4,700

direct jobs



€5.2

private investment for

15,000

indirect jobs

€1

CBE JU grant-leverage  
effect



€250

million CBE JU grant



800+

KT CO<sub>2</sub> emission  
savings



€1.3

billion private  
investment\*



High

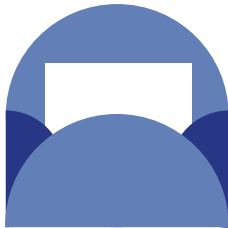
replicability potential

\* Based on aggregated confidential data provided by the projects and subject to change until the Flagship plants are implemented



Circular  
Bio-based  
Europe  
Joint Undertaking

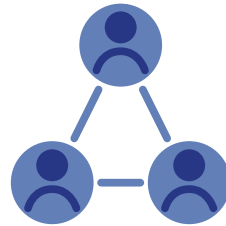
## More information



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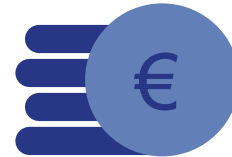
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